

DIET SELECTION AND REPRODUCTIVE PERFORMANCE IN *MARTES AMERICANA*

M. BEN-DAVID, Alaska Cooperative Fish and Wildlife Research Unit, NBS, P.O. Box 757020, University of Alaska-Fairbanks, Fairbanks, AK 99775, USA

R. FLYNN, Alaska Department of Fish and Game, P.O. Box 240020, Douglas, AK 99824, USA

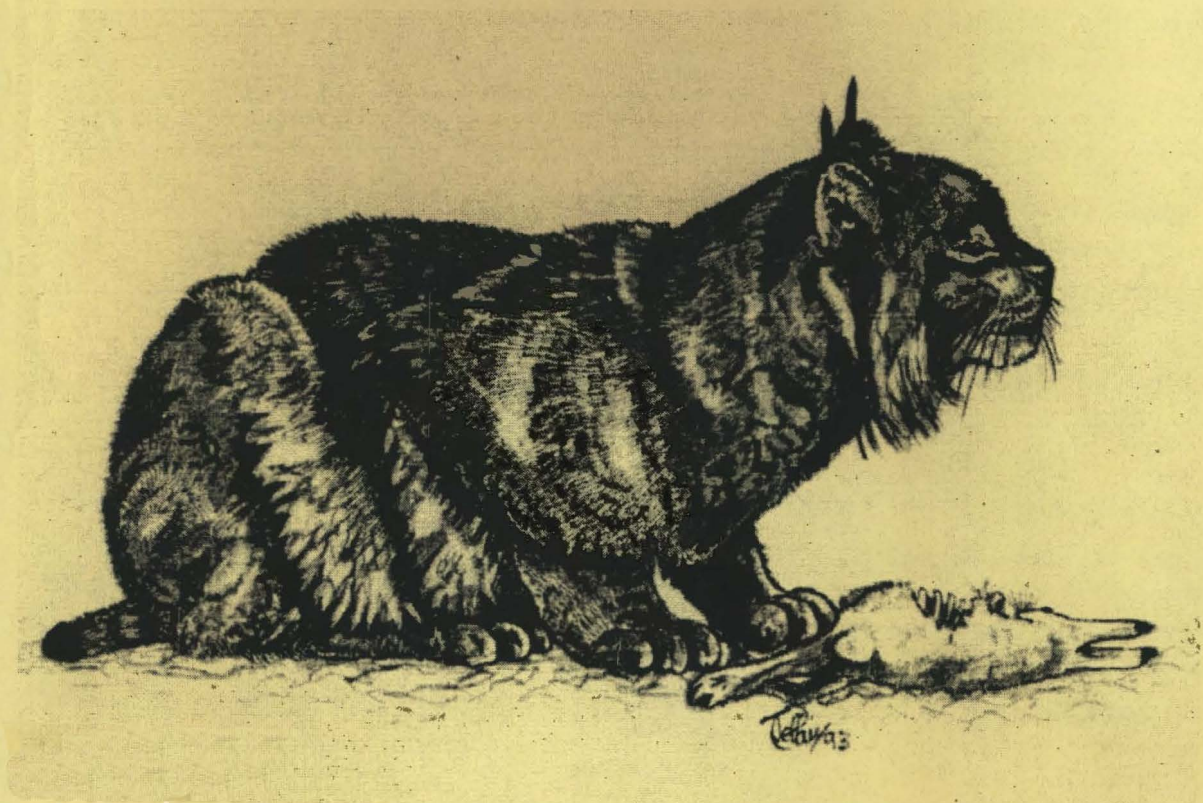
Abstract: Previous studies established the relationship between body condition and reproductive performance in several mammalian species. Body condition is often influenced by food availability and diet selection. In species with delayed implantation, such as marten (*Martes americana*), the female's nutrition and body condition prior to implantation will determine her reproductive success. In this study we investigate diet selection and body condition of reproductive and non-reproductive adult female martens in Southeast Alaska in 1991 and 1992. We obtained marten carcasses from trappers, of which we sub-sampled 47 adult females (>1 year, as determined from teeth cementum). Diet was determined for each individual using stable isotope analysis. Reproductive status was established using corpora lutea counts whereas body condition was determined from carcass weight. Diet selection was established for live martens ($N = 59$), using stable isotope analysis. Samples were obtained in three different years (1992, 1993, and 1994) representing three different food availabilities (i.e., mammalian prey abundance). Our analysis showed that martens preferably fed on mammalian prey (*Microtus longicaudus* and *Peromyscus keenii*) when those were available in high numbers. During low availability of mammalian prey martens included salmon (*Oncorhynchus* sp.) carcasses in their diets. We were unable to detect differences in diet selection between reproductive and non-reproductive females. We found no significant differences in body weight between the two groups of females. Also, reproductive females feeding on mammalian prey did not differ in body weight from reproductive females feeding on salmon carcasses. Our results suggest that although salmon carcasses are not a preferred food item for martens, they act as a buffer to body condition and allow successful reproduction even in years when preferred food is not readily available.

8TH NORTHERN FURBEARER CONFERENCE

In Conjunction With

**ANNUAL MEETING OF THE
ALASKA CHAPTER OF THE WILDLIFE SOCIETY**

"Tradition and Transition -- Moving into the 21st Century"



**CONFERENCE PROGRAM
MAY 3-5, 1995
ANCHORAGE, ALASKA**